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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,278	12/03/2003	David E. Bronaugh	D-2763/WOD	1584

7590 02/17/2005  
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EXAMINER

NGUYEN, NINH H

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/729,278	<b>Applicant(s)</b> BRONAUGH ET AL.	
	<b>Examiner</b> Ninh H. Nguyen	<b>Art Unit</b> 3745	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-15 and 17-43 is/are rejected.
- 7) ☒ Claim(s) 7-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/03/03, 12/27/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 27 is objected to because of the following informalities: on line 2, "both" should be moved to the location in front of "a reduced electrical". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 20-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for lack of antecedent basis for the limitation "the thermal setting" on line 13 of claim 20.

Claims 21-33 are indefinite as being dependent on claim 20.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 11, 12, 15, 18, 20, 29, 30, 32, 34, 35, and 38-41, as far as they are definite, are rejected under 35 U.S.C. 102(b) as being anticipated by Hynes (1,991,280).

Hynes discloses a blower (Figs. 1-14) comprising a blower housing defining a suction opening and a discharge opening (Fig. 1); a rotating blower element F disposed within the blower housing and being in fluid communication with the suction opening and the discharge

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opening, wherein the rotating blower element forces the current of air from the suction opening to the discharge opening; and a heat-generating housing wall 27 borne by the blower housing and interposed between the suction the discharge opening, wherein the heat-generating provides electrically generated heat that heats the air (page 1, right column, lines 48-52);

wherein the blower is a centrifugal fan (Fig. 1);

wherein the blower is an axial fan (Fig. 10);

wherein the blower housing comprises at least two sections that are joined at a seam (Fig. 1), and the blower further comprises an electrical node adjacent to the seam (Fig. 1) for providing electrical power to the heat-generating housing wall to reduce hat losses therethrough; and

wherein the heat generating housing wall is comprised of a material which generates heat in response to the application of current(page 1, right column, lines 48-52);

5. Claims 1, 6, and 23, as far as they are definite, are rejected under 35 U.S.C. 102(b) as being anticipated by Kashihara et al. (4,228,124).

Kashihara discloses a blower (Figs. 1-6) comprising a blower housing defining a suction opening 3 and a discharge opening (Fig. 1); a rotating blower element 4 disposed within the blower housing and being in fluid communication with the suction opening and the discharge opening, wherein the rotating blower element forces the current of air from the suction opening to the discharge opening; and a heat-generating housing wall 6 borne by the blower housing and

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interposed between the suction the discharge opening, wherein the heat-generating provides electrically generated heat that heats the air (col. 11, lines 38-40);

wherein the blower further comprising a semiconductive wire lying in intimate contact with the heat generating housing wall (Fig. 1; col. 8, lines 6-11); and

wherein the conductive material includes a nickel and chromium alloy (col. 8, lines 6-11).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hynes in view of Reuter et al. (4,060,710).

Hynes discloses all the limitations except the heat generating housing wall does not comprises a resin substrate impregnated with a conductive material that is more electrically conductive than the resin substrate as claimed.

Reuter teaches a well known heating element comprises a plastic flexible carrier impregnated with conductive graphite (col. 1, lines 41-48).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the blower of Hynes with the heat generating housing wall comprises the heating element of Reuter as an expedience to provide a heating element for the blower.

8. Claims 4, 5, 10, 19, 21, 22, and 24, as far as they are definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hynes in view of Smith-Johannsen (2,952,761).

Hynes discloses all the limitations except the heat generating housing wall does not comprises an outer layer and an inner layer, wherein the inner layer is more conductive than the outer layer; a thermosetting resin; nor the conductive material includes graphite as claimed.

Smith-Johannsen teaches conductive laminated structures comprising a layer of porous conductive structure laminated with thermosetting layers to form a dense homogeneous product (col. 1, lines 42-55) for use in portable space heater and the like (col. 1, lines 31-36); wherein porous conductive structure comprises graphite (col. 2, line 9-14).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the blower of Hynes with the heat generating housing wall comprising conductive laminated structures of Smith-Johannsen as an expedience for the providing heating capability for the blower housing wall.

Regarding claim 5, Since the applicant has not disclosed that having the inner layer includes a graphite cloth solves any stated problem or is for any particular purpose above the fact that a graphite cloth is a form of heating elements, and it appears that the modified blower of Hynes in view of Smith-Johannsen would perform equally well with the inner layer or the porous conductive structure made of graphite cloth as defined claimed by applicant, it would have been an obvious matter of design choice to modify the porous conductive structure of Hynes in view of Smith-Johannsen by utilizing the specific material as claimed.

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9. Claims 25 and 26, as far as they are definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hynes in view of Hoffman (1,948,759).

Hynes discloses all the limitations except the conductive material is not a wire as claimed.

Hoffman teaches an electric heater comprising a fan disposed in a housing, a heating element in form of a conductive wire positioned adjacent to the fan (Figs. 1-11).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the blower of Hynes with the conductive material is a wire for the purpose of providing a heating element as a commonly done in the art.

10. Claims 6 and 23, as far as they are definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hynes in view of Kashihara et al. (4,228,124).

Hynes discloses all the limitations except the blower does not comprise a semiconductive were lying in intimate contact with the heat generating housing wall as claimed.

Kashihara teaches a blower comprising a housing (Fig. 1), an impeller 4 disposed within the housing and a heating element 6 is in intimate contact with the housing wall; wherein the heating element is semiconductive wire made from nickel chromium (col. 8, lines 6-11).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the blower of Hynes with a semiconductive wire lying in intimate contact with the heat generating housing wall as an expedience for of providing a heating element for the housing wall.

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11. Claims 13, 17, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hynes in view of Hoffman.

Hynes discloses all the limitations except the heat generating housing wall does not comprises a plurality of heating elements that can be selective energized individually as claimed.

Hoffman teaches an electric heater (Figs. 1-11) comprising a housing, a fan connected to a shaft of a motor disposed inside the housing (Fig. 2), heating elements 6 and 7 position next to the fan, and switches 50-52 to selectively energize the heating elements individually (page 3, lines 79-101).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the blower of Hynes with a plurality of heating elements controlled by a plurality of switches to selectively energize the heating elements individually for the purpose controlling the heating level of the blower as taught by Hoffman.

12. Claims 14 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hynes in view of Turner (4,208,644).

Hynes discloses all the limitations except the heat generating wall does not provide infinitely adjustable levels of heat as claimed.

Turner teaches an infinite switch for controlling temperature of heating elements (col. 1, lines 18-23).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the blower of Hynes with the infinite switch of Turner for the purpose of providing an infinitely adjustable heat output as taught by Turner.



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13. Claims 34, 36 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hynes in view of Hoffman as applied to claim 25 and in further view of Nopanen (4,008,388).

Hynes inherently discloses all the limitations except the conductive material is not a wire and the step of selectively varying the length of an electrical path within the blower housing wall as claimed.

Hoffman teaches an electric heater comprising a fan disposed in a housing, a heating element in form of a conductive wire positioned adjacent to the fan (Figs. 1-11).

Nopanen teaches a method of using a blower to heat air comprising the steps of supporting the blower element within the blower housing, rotating the blower element to force the air through the blower housing, heating the air by generating heat within the blower housing and selectively varying the length of an electrical path within the blower housing (Figs. 1-4, col. 2, lines 12-45).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to utilize the method of using a blower to heat air with of Hynes with the conductive material is a wire as an expedience to provide a heating element, and the step of selectively varying the length of an electrical path within the blower housing for the purpose of controlling the heat out put of the blower as taught by Nopanen.

***Allowable Subject Matter***

14. Claims 7-9, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Claims 27 and 33 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Prior Art***

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure and consists of 1 patent.

Kendall (3,211,891) and Roell (5,484,983) are cited to show a blower comprising a heating element and a knitted fabric heating element, respectively.

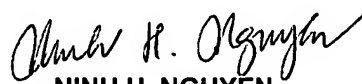
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (571) 272-4823. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (571) 272-4820. The fax number for this group is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, please go to <http://pair-direct.uspto.gov> or contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).

  
NINH H. NGUYEN  
PRIMARY EXAMINER

Nhn  
February 16, 2005